

Work Order ID 108097

October-07-13 9:11:06 AM

108097

Page 1

Item ID: D6101-001

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Saddle Billet

Start Date: 10/07/13 Start Qty: 30.00

30

Cust Item ID:

Required Date: 10/07/13 Req'd Qty: 30.00

30

Customer:

Reference:

Approvals: Process Plan: MLJ Date: 13-10-07 Tooling:

Date:

Run Start ***NR1***

QC: Date: SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D6101	Rev B								
100		0.00							
100	PURCHASING								
Purchasing	Memo	0.00							
Purchasing	Issue P/O: <u>21624</u>								
	a) Description: Alluminum billet								
	b) 6.00" x 6.250" x 2.00" thick								
	c) Tolerance on length are +0.030"/-0.000" \pm +/-0.008"								
	d) Grain direction along 6.00" length								
	e) Material: 7075-T7351 (QQ-A-250/12)								
	f) Material certification required								
110		0.00							
110	Receive & Inspect for Damage & Mat'l Certs								
Packaging	Memo	0.00							
Packaging	Ensure material certification is attached								

CL 13/10/08 (30)

P 13/11/14 (30)

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="width: 25%;">Skid-tube <input type="checkbox"/></td> <td style="width: 25%;">Crosstube <input type="checkbox"/></td> <td style="width: 25%;">Water Jet <input type="checkbox"/></td> <td style="width: 25%;">Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>															
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data									
Equip/Tooling									
Operator									
Material									
Setup									
Other									
Process									
Supplier									
Training									
Unapproved									

FAULT CATEGORY

Landing Gear	General	Other
<input type="checkbox"/> Bending	<input type="checkbox"/> Bend	<input type="checkbox"/> Grain
<input type="checkbox"/> Centre Not Concentric to O/S	<input type="checkbox"/> BOM/Route	<input type="checkbox"/> Hardware
<input type="checkbox"/> Cracks	<input type="checkbox"/> Broken/Damaged	<input type="checkbox"/> Inspection Incomplete
<input type="checkbox"/> Crushed/Crimped	<input type="checkbox"/> Burrs	<input type="checkbox"/> Instructions Incomplete/Unclear
<input type="checkbox"/> Cuffs	<input type="checkbox"/> Contamination	<input type="checkbox"/> Maintenance
<input type="checkbox"/> Heat Treat	<input type="checkbox"/> Countersink	<input type="checkbox"/> Mislabeled
<input type="checkbox"/> Inspection Strip in Tube	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Misread
<input type="checkbox"/> Ripples in Bend	<input type="checkbox"/> Drill Holes	<input type="checkbox"/> Offset
<input type="checkbox"/> Torque Waves in Extrusion	<input type="checkbox"/> Drawing	<input type="checkbox"/> Out of Calibration
<input type="checkbox"/> Turning Sequence	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Sequence
<input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Folio	<input type="checkbox"/> Outside Dimensions
		<input type="checkbox"/> Ovalized
		<input type="checkbox"/> Over/Under tolerance
		<input type="checkbox"/> Part Incorrect
		<input type="checkbox"/> Part Lost/Missing
		<input type="checkbox"/> Part Moved
		<input type="checkbox"/> Positioned Wrong
		<input type="checkbox"/> Power Loss/Surge
		<input type="checkbox"/> Pressure/Forced
		<input type="checkbox"/> Temperature/Cure
		<input type="checkbox"/> Weld
		<input type="checkbox"/> Wrong Stock Pulled
		<input type="checkbox"/> Other

Work Order ID 108097

108097

Page 2

October-07-13 9:11:06 AM

Item ID: D6101-001

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Saddle Billet

Start Date: 10/07/13 Start Qty: 30.00

30

Cust Item ID:

Required Date: 10/07/13 Req'd Qty: 30.00

30

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run

Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

120

QC6- Inspect dimensions to drawing

0.00

120

QC

Memo

0.00

Quality Control

Ensure Material certification comply to Dwg D

OK 13/11/05

30

0

130

Identify as per dwg & Stock Location: 42

0.00

130

Packaging

Memo

0.00

Packaging

OK 13/11/05

30

0

140

QC21- Final Inspection - Work Order Release

0.00

140

QC

Memo

0.00

Quality Control

OK 13-11-07

MF 13-11-06

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

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Setup <input type="checkbox"/>									
Other <input type="checkbox"/>									
Process <input type="checkbox"/>									
Supplier <input type="checkbox"/>									
Training <input type="checkbox"/>									
Unapproved <input type="checkbox"/>									

FAULT CATEGORY

Landing Gear	General	Other
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		<input type="checkbox"/> Other

Picklist Print

October-07-13 9:11:06 AM

Page 1

Work Order ID: 108097

Parent Item: D6101-001

Parent Item Name: Saddle Billet

Start Date: 10/07/13

Required Date: 10/07/13

Start Qty: 30.00

Required Qty: 30.00

Comments: IPP B: 01.05.04New IssueEC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6101-001P 7075-T7351 2X6X6.25		Purchased	No			110	Each	0.0000	1	30		10/31/13	(30)

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

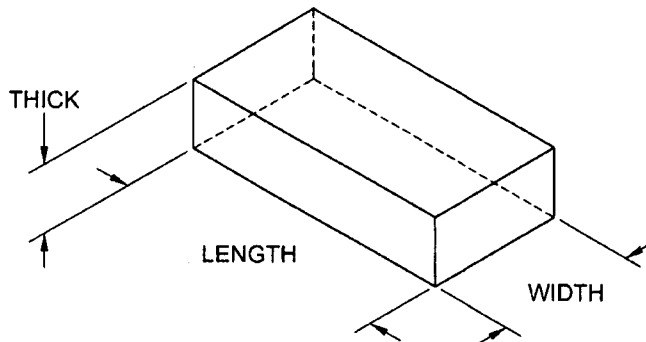
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Training <input type="checkbox"/>									
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FAULT CATEGORY

Landing Gear	General	Other
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		<input type="checkbox"/> Temperature/Cure
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		<input type="checkbox"/> Wrong Stock Pulled
		<input type="checkbox"/> Other

SPECIFICATION CONTROL DRAWING



PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.030/-0.000), AND GRAIN DIRECTION AS SHOWN.

TOLERANCES ON ALL DIMENSIONS ARE +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES.

B ACCEPTABLE SPECIFICATIONS FOR 7075-T7351 ALUMINUM ARE AMS-QQ-A-250/12, QQ-A-250/12, OR ASTM B209

Part No.	Alloy	Length	Width	Thick	Grain Direction
D6101-001	7075-T7351 (QQ-A-250/12)	6.000	6.250	2.000	Along 6.000 Length
D6101-003	7075-T7351 (QQ-A-250/12)	7.875	6.250	2.000	Along 7.875 Length
D6101-005	7075-T7351 (QQ-A-250/12)	5.000	8.250	2.500	Along 5.000 Length
D6101-007	7075-T7351 (QQ-A-250/12)	7.750	8.250	2.500	Along 7.750 Length
D6101-009	7075-T7351 (QQ-A-250/12)	8.700	8.250	2.500	Along 8.700 Length
D6101-011	7075-T7351 (QQ-A-250/12)	9.700	8.250	2.500	Along 9.700 Length
D6101-013	7075-T7351 (QQ-A-250/12)	10.100	8.250	2.500	Along 10.10 Length
D6101-015	7075-T7351 (QQ-A-250/12)	9.450	6.250	2.500	Along 9.450 Length
D6101-017	7075-T7351 (QQ-A-250/12)	6.350	6.250	2.250	Along 6.350 Length

RELEASED
09/07/15/WP

108097 M/L5
13-10-07

B	ADDED D6101-015/-017, ADD ASTM B209	RF	09.04.23
A	NEW ISSUE	CP	01.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D6101	SHEET 1 OF 1
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	SADDLE BILLET, 7075	NTS
DATE	09.04.23	<small>COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

3.1

B I L L O F L A D I N G

Ship From: THYSSENKRUPP MATERIALS NA
2821 LANGSTAFF ROAD
CONCORD, ONTARIO L4K 5C6
Tel: 905 669 9444 Fax: 905-738-9033

No: PEC 848387
Ship Date 31Oct13 at 15:35 From PFW
Probill
Via VIM TRANSFER
FOB CONCORD
Frt PREPAID
Route 0- 0 Manifest
Vhcle Trailer
Slp STAN IVERS (905-532-1350)
Sold To: (20115)
DART AEROSPACE
1270 ABERDEEN ST
HAWKESBURY, ON K6A 1K7

Ship To: (1)
DART AEROSPACE
1270 ABERDEEN ST
HAWKESBURY, ON K6A 1K7
Tel: 613-632-9577 Fax: 613-632-1053

B I L L O F L A D I N G

1) Our Order PEC-613987- 1 Your PO # 21624
Part # DWG D6101 REV B Rel #

ALUMINUM PLATE 7075-T7351 USI
2.00" THICK X 6.2500" X 6.0000"

*****GRAIN DIRECTION TOWARD 6.00 INCH DIM*****

Heat Number	Tag No	Quantity	PCS	Wt LBS
759171A2	231779	7.81 SFT	30	236

TOTAL:	Tags	PCS	LBS
	1	30	236

Heat Number 759171A2 *** Chemical Analysis ***

ADD ON 607373 SUR-CHARGE ADDED

MILL TEST REPORTS, PACKING SLIPS ARE TO SENT
WITH MATERIAL AND FAXED TO THE CUSTOMER PRIOR
TO SHIPPING.

ATTN: CHANTAL/LINDA

** ALL PACKING SLIPS MUST HAVE THE HEAT NUMBER **
** REFERENCED ON IT **

MTR

Page: 1Continued

TOUTES ERREURS ET/OU MARCHANDISES MANQUANTES DOIVENT ÊTRE
RAPPORTÉES IMMÉDIATEMENT

ERRORS OR SHORTAGE MUST BE REPORTED IMMEDIATELY

RETOUR DE MARCHANDISES AVEC NOTRE NUMÉRO D'APPROBATION SEULEMENT
MERCHANDISE MAY NOT BE RETURNED WITHOUT OUR APPROVAL NUMBER

REÇU EN BONNE CONDITIONS / RECEIVED IN GOOD CONDITION

DATE

THYSSENKRUPP MATERIALS NA

DART AEROSPACE

ALUMINUM PLATE 7075-T7351 US1

2.00" THICK X 6.2500" X 6.0000"

PART NO. DWG D6101 REV B

PO/Rel 21624

We certify that this is a true copy of the report furnished by the producer of the metal, or data resulting from tests made in approved labs.

Certificate of Mill Test Results

BL PEC-848387-001

1Nov13

Signed by:

Pg 1/2

SHIP TO:

THYSSENKRUPP MATERIALS NA
TRENCH-CONTRACT WHSE @CONCORD
2821 LANGSTAFF ROAD
CONCORD, ON, CA L4K 5C6

SOLD TO:

THYSSENKRUPP MATERIALS NA
2821 LANGSTAFF ROAD
CONCORD, ON, CA L4K 5C6

KAISER
ALUMINUM

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4313701

CUSTOMER PO NUMBER: PEC-252084		WORK PACKAGE:		CUSTOMER PART NUMBER:		SHIP RUN/LOAD: 102767/33		GOVT CONTRACT NUMBER:		
KAISER ORDER NO: 1180925	LINE ITEM: 1	SHIP DATE: 25-OCT-2013		ALLOY: 7075	CLAD: BARE	TEMPER: T7351	PRODUCT DESCRIPTION: Kaiser Select® Plate			
WEIGHT SHIPPED: 5758 LB		QUANTITY: 4 PCS EST.		TRUCK B/L #: 2044667		GAUGE: 2.0000 IN (50.8000 MM)		DIAMETER/WIDTH: 48.500 IN (1231.9 MM)		LENGTH: 144.500 IN (3670.3 MM)

MHU 1726278: LOT 759171A2: 2 pieces;
MHU 1726280: LOT 759171A2: 1 pieces;
MHU 1726283: LOT 656175A7: 1 pieces;

Certified Specifications

AMS 4078/RevJ
ASTM B 209/Rev10
BSS 7055/RevB
DPS 4.713/RevAK
MMS 159/RevT

AMS-QQ-A-250/12
ASTM B 594/Rev09
CMMP 025/RevU
GAMPS 9101/RevB
PS 21211/RevM

AMS-STD-2154/RevA
BAC 5439/RevJ
CSTI 006/RevE
GSS16100/RevG/Amd1

Test Code: 4297

Test Results

Lot: 656175A7 Cast 572 Drop 07 Ingot 2 Melted in USA

(ASTM E8/B557)
(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPa)	Yield KSI (MPa)	Elongation %
	T7351	LT / 2 (Min:Max)	71.2 : 71.5 (491 : 493)	60.6 : 61.0 (418 : 421)	11.5 : 12.4

(ASTM E1004)
(EN 2004-1)

Conductivity %IACS :	40.8 Min	41.1 Max
(MS/M) :	23.7 Min	23.8 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual(wt%)	0.08	0.21	1.5	0.03	2.4	0.20	5.6	0.03	0.01	0.02	TOT 0.05

THYSSENKRUPP MATERIALS NA

DART AEROSPACE

ALUMINUM PLATE 7075-T7351 US1
2.00" THICK X 6.2500" X 6.0000"
PART NO. DWG D6101 REV B

PO/Rel 21624

We certify that this is a true copy of the report
furnished by the producer of the metal, or data
resulting from tests made in approved labs.

Certificate of Mill Test Results

BL PEC-848387-001

1 Nov 13

Signed by: _____

Pg 2/2

KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4313701

Lot: 759171A2 Cast 573 Drop 08 Ingot 2 Parent Lot: 657095A6 Melted in USA

(ASTM E8/B557)
(EN 2002-1)

Tensile:	Temper	Dir / # Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
	T7351	LT / 2 (Min:Max)	70.1 : 71.0 (483 : 490)	58.7 : 60.2 (405 : 415)	12.2 : 12.2

(ASTM E1004)
(EN 2004-1)
Conductivity %IACS : 41.0 Min 41.4 Max
(MS/M) : 23.8 Min 24.0 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual(wt%)	0.09	0.19	1.4	0.03	2.5	0.20	5.8	0.02	0.01	0.01	TOT 0.05

ALLOY LIMITS

	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
7075												
MIN(wt%)	0.00	0.00	1.2	0.00	2.1	0.18	5.1	0.00	0.00	0.00	EACH	0.05
MAX(wt%)	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.05	TOT	0.15

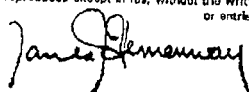
Aluminum Remainder

TEST NOTES

Metal represented by this test report was 100% immersion
ultrasonically tested from one side with 3mm dead zones top
and bottom and meets the Class A and Class B requirements of
all specifications referenced on this test report. No
surface marking of sonic indications is performed.

CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC (Kaiser) hereby certifies that metal shipped under this order was melted in the United States of America or a qualifying country per
DFARS 225.872-1(a), was manufactured in the United States of America, and meets the requirements of DFARS 252.225 for domestic content. This material has been inspected,
tested and found in conformance with the requirements of the applicable specifications as indicated herein. For material thicknesses outside specification limits,
mechanical properties are as shown herein and chemical composition meets specification requirements. All metal which is solution heat treated complies with AMS 2772. Any
warranty is limited to that shown on Kaiser's standard general terms and conditions of sale. Test reports are on file, subject to examination. Test reports shall not be
reproduced except in full, without the written approval of Kaiser Aluminum Fabricated Products, LLC laboratory. The recording of false, fictitious or fraudulent statements
or entries on the certificate may be punished as a felony under federal law. ISO-9001:2000 certified.



JAMES HEMENWAY, LABORATORIES SUPERVISOR

Page 2 of 2

1301